IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BOARD OF PATENT APPEALS AND INTERFERENCES

In Re Application of:

MARTIN H. GRAHAM

Application No.: 09/221,291

Filed: December 23, 1998

For: Biphase Multiple Level Communications

Art Unit: 2611

Examiner: Burd, Kevin Michael

CERTIFICATE OF TRANSMISSION

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Harleen Bains — December 29, 2008

Harleen Bains — *Date*

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REPLY BRIEF UNDER 37 C.F.R. § 41.41

Dear Sir:

The applicant hereby submits this Reply Brief in Response to the Examiner's Answer, mailed on October 28, 2008, to the applicant's appeal, filed July 14, 2008, from a decision by the examiner, mailed on January 25, 2008, in the above-captioned case.

TABLE OF CONTENTS

Identification Page

REPLY BRIEF UNDER 37 C.F.R. § 41.41 ..... - 1 -

(A) Status of Claims ..... - 3 -

(B) Grounds of Rejections to be Reviewed on Appeal ..... - 3 -

(C) Argument ..... - 4 -

a. A key claim limitation is ignored to justify the combination which includes Omura .- 4 -

b. Omura does not provide support for the position taken in the Answer ..... - 4 -

c. Devon does not provide support for the position taken in the Answer..... - 6 -

Conclusion ..... - 9 -

(A) Status of Claims

Claims 1-18 are cancelled.

Claims 19-25 are pending.

Claims 19-22, 24, and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fullerton et al. (U.S. Patent No. 5,677,927) (hereinafter "Fullerton") in view of Omura et al. (U.S. Patent No. 5,157,686) (hereinafter "Omura") further in Devon (U.S. Patent No. 5,692,127) (hereinafter "Devon"). Claim 23 is rejected in view of an additional reference, Pernyeszi (U.S. Patent No. 5,969,547) (hereinafter "Pernyeszi").

The applicant respectfully appeals from the office action dated January 25, 2008 with respect to all the pending claims, claims 19-25.

(B) Grounds of Rejections to be Reviewed on Appeal

Claims 19-22, 24, and 25 were rejected under 35 U.S.C. § 103(a) over Fullerton in view of Omura and Devon.

Claim 23 added the reference Pernyeszi.

(C) Argument

All the claims stand or fall together with respect to 35 U.S.C. § 103. The applicant maintains all arguments presented in the applicant's Reply Brief, filed July 14, 2008. Additionally, the applicant presents the following points.

a. A key claim limitation is ignored to justify the combination that includes Omura

The Examiner's Answer relies upon the Manchester encoding of Omura along with Fullerton and Devon. To justify this combination, based on Omura, the Answer alleges that there is "time" between the biphasic pulses of Omura comparable to the first and second periods of time in the claims by using "zero seconds" in Omura. This is a wholly imaginary time in Omura – where none exists.

The limitation in the claims of waiting "a period of time" or "measuring the time between the first and second biphasic pulses" is a real limitation. It is this period of time which determines what data is transmitted. Relying on zero seconds is not a tenable position. It reduces a limitation to nothing to justify a combination. Would anyone accept that subjecting a substance to hydrogen is the same as subjecting it to water, where the oxygen is reduced to zero; or stopping at a stop sign for zero time is not running a stop sign? This is the absurdity of reducing a key limitation of the claims to non-existence to justify a combination.

b. Omura does not provide support for the position taken in the Answer

The Answer argues that Omura discloses the applicant's alternation of the polarity of the biphasic pulses as present in the applicant's claims. (Examiner's Answer, pp.10-12.) However, the Answer fails to appreciate Omura as a whole, as required in MPEP § 2141.02(VI).

In Omura, the system makes use of Manchester encoded bits. Specifically, the Omura system describes encoding "[e]ach '0' bit of the data bit sequence . . . as a '01' . . . and each '1' bit of the data bit sequence . . . as a '10.'" (Omura, col.7 ll.16-18 & fig. 2.) Omura then describes a random sample data sequence, 0110101, and the resulting Manchester encoded bits, 01101001100110, to demonstrate the properties of Manchester encoding. (Omura, col.7 ll.16-18.) Based on the text of the patent, this data sequence has no unique features or significance; yet, the Answer argues that this random sequence discloses the applicant's alternation of the polarity of each biphasic pulse.

In Omura, the "polarity" of a pulse is completely dependent on the data to be sent. In the applicant's invention as claimed, the alternation of the polarity of each biphasic pulse, in relation to the previous pulse, occurs regardless of the data sequence. In Omura, the polarity of two consecutive pulses might alternate or, just as likely, the polarity might not alternate. Any alternation between the polarities of pulses is a function of the conditions of the Omura system's use (specifically a function of the data being sent) rather than an aspect of its disclosure. This is not the same as the applicant's alternation of the polarity of biphasic pulses.

Furthermore, the Answer argues that Omura discloses "waiting a first period of time following the second portion of the first biphasic pulse . . ." as required in the applicant's claims. However, Omura makes no mention of waiting any time between two pulses, as described above. The Answer, instead, relies on the idea that "Omura discloses . . . waiting a first period of time (in this case zero seconds)." (*see* Examiner's Answer, p. 5, 9-11.) This interpretation of the phrase "waiting a first period of time" has no basis in either the ordinary meaning of the terms or their meaning in light of the present application.

The Answer argues that "waiting a first period of time" is the same as not waiting any period of time. This interpretation is contrary MPEP § 2111.01, which requires: "the words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification." Not waiting any period of time, or as the examiner states "waiting a first period of time (in this case zero seconds)," is not the plain meaning of the phrase "waiting a first period of time." Furthermore, in light of the specification this phrase requires some passage of time more than no passage of time. The applicant's specification states:

> The first encoding state T1 . . . occup[ies] a time interval of *2 units (e.g. 2 microseconds)*. The second encoding state T2 . . . occup[ies] a time interval of *3 units (e.g. 3 microseconds)*. The third encoding state T3 . . . occup[ies] a time interval of *4 units (e.g. 4 microseconds)*. Finally, the fourth encoding state T4 . . . occup[ies] a time interval of *5 units (e.g. 5 microseconds)*.

(Present Application, p.3 l.30 to p.4. l.6 (emphasis added).)

c. Devon does not provide support for the position taken in the Answer

The claims require that the duration of the time between pulses represents a plurality of transmitted bits. (Claims 19 & 25.) The Answer has misconstrued what the reference discloses by relying on a single sentence of the thirteen-page reference. By not looking at the reference in its entirety, the Answer fails to consider the teachings of reference as a whole, contrary to the requirements of MPEP § 2141.02(VI). The Answer cites:

> "a receiving device decodes the PPM signals by measuring the time between each pulse received and the previous received pulse"

(Answer, p. 12-13)

This statement is only true when you know what position the first pulse has in its frame, and from this you can determine what position the next pulse has in the next frame. This only works for a PPM signal. This is not at all like what is claimed.

The Answer characterizes figure 4 of Devon (reproduced below) as showing "how data can be added to times when no data is being transmitted to increase the capacity of the system. More data can be sent that [sic] was sent previously." (Examiner's Answer, p.6) However, figure 4 of Devon shows a representation of pulse position modulation ("PPM"), specifically in reference to the ultimate purpose of Devon. Devon, particularly figure 4, is meant to provide a "method and apparatus for detecting and indicating a collision on a wireless channel." (Devon, Abstract)

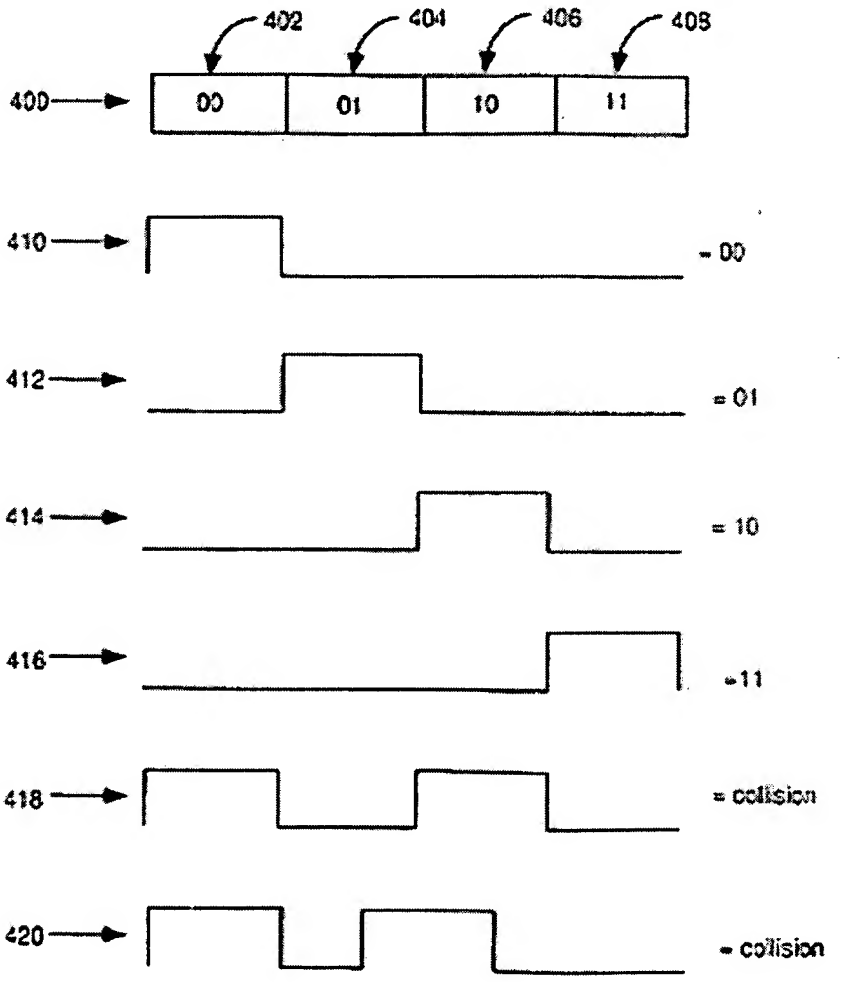

Fig. 4

Devon Figure 4

In the PPM system of Devon, multiple bits are represented by the position of a pulse in a PPM frame. The PPM frame 400 is divided into four pulse windows 402, 404, 406, and 408 and "[e]ach pulse window is associated with a symbol that represents the value of two bits. In the present example, pulse window 402, 404, 406, and 408 are associated with '00', '01', '10', and '11' respectively." (Devon, col. 5, ll. 61-64.) "[T]he signal 410, in which a pulse is sent during pulse window 402, communicates the value '00'." (Devon, col. 6, ll. 1-3.) In Devon, if two pulses occur in the same PPM frame 400, the system will detect a collision. "For example, a signal 418 that carries pulses during both pulse windows 402 and 406 of a single PPM frame, can represent a network collision." (Devon, col.6, ll.19-20.)

In Devon, the time between two PPM pulses is not "selected to represent" a plurality of data bits, as required by the claims. Regardless of the single quote relied on in the Answer, it is the position of the pulse within the PPM frame that represents the value of the data being encoded. In short, Devon relies on when a pulse occurs in a frame to encode data whereas the applicant teaches using the time between pulses to encode data.

Conclusion

The combination of Fullerton, Omura, and Devon does not teach the applicant's invention nor does the combination meet the elements present in the language of the claims. Further, the addition of Pernyeszi does not teach the invention of claim 23.

Fee for Filing a Reply Brief in Response to Examiner's Answer

The applicant believes there is no fee for filing a Reply Brief in Response to Examiner's Answer.

Charge Our Deposit Account

If there are any further charges not accounted for herein, please charge them to our deposit account No. 02-2666.

Respectfully submitted,

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Dated: December 29, 2008

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